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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/659,960

09/10/2003

Alexander M. McQueen

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08/24/2004

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EXAMINER

YAM, STEPHEN K

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/659,960	Applicant(s) MCQUEEN, ALEXANDER M.	
	Examiner Stephen Yam	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-33 is/are pending in the application.
- 4a) Of the above claim(s) 10-14, 20, 32 and 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-19 and 21-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1103</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 10-14, 20, and 33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on May 28, 2004.

Applicant submitted new claims 32 and 33 within the response filed May 28, 2004 which are directed towards a non-elected species and invention. Therefore, Claims 32 and 33 is withdrawn from consideration.

Applicant argues that there is commonality of function between the claim groups such as the sensor array arranged at a tilt angle α with the image collected at various rotational angles. Examiner asserts that the operation of the two species are fundamentally and distinctly different, as one species requires a single image sensor array and a means for rotating an image on the image sensor array, while the second species requires multiple image sensor arrays. Thus, Examiner asserts the restriction is proper.

Specification

Applicant's reference to domestic priority in the first paragraph should be updated with the parent application's patent number, 6,621,063.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 484 (Fig. 4b- see paragraph 0046, line 19). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 475, 476 (Fig. 4b). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

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applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 15-19 and 21-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shellhammer et al. US Patent No. 5,523,552 in view of Bremer US Patent No. 6,689,998.

Regarding Claim 15, Shellhammer et al. teach (see Fig. 9 and 10) an optical reader comprising a plurality of image sensor arrays (42) disposed in an optical path (see Fig. 10- path from (2) to (40)) for detecting a signal representative of light reflected from the object (see Col. 9, lines 17-22), wherein each of said image sensor arrays is disposed at approximately a same tilt angle α with respect to the optical path (since they are all disposed on the plane of the radial array (40)), wherein each of said image sensor arrays being oriented at a different rotational angle (see Fig. 9) to the optical path in relation to one another. Regarding Claim 22, Shellhammer et al. teach (see Fig. 9 and 10) an optical reader comprising a plurality of image sensor arrays (42) arranged about an optical path (see Fig. 10- path from (2) to (40)), each of said image sensor arrays being disposed at approximately a same tilt angle α with respect to the optical path (since they are all disposed on the plane of the radial array (40)), wherein each of said image sensor arrays is oriented at a different rotational angle (see Fig. 9) to the optical path

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in relation to one another. Regarding Claim 29, Shellhammer et al. teach (see Fig. 9 and 10) a method of optical reading comprising the steps of arranging a plurality of image sensor arrays (42) about an optical path (see Fig. 10- path from (2) to (40)) with each of said image sensor arrays being disposed at approximately a same tilt angle α with respect to the optical path (since they are all disposed on the plane of the radial array (40)), wherein each of the image sensor arrays being oriented at a different rotational angle (see Fig. 9) to the optical path in relation to one another, and detecting, at each of the image sensor arrays, a signal representative of light reflected from an object (2) (see Col. 9, lines 17-22 and 31-46). Regarding Claim 30, Shellhammer et al. teach (see Fig. 9 and 10) a method of optical reading comprising the steps of projecting an image of an object (2) being read toward a collection system (40) comprised of one or more sensor arrays (42), each sensor array being arranged at a tilt angle α (see Fig. 9) with respect to an optical path (see Fig. 10- path from (2) to (40)), detecting the image at differing rotational angles (see Fig. 9) relative to the optical path while maintaining the tilt angle α of the sensor array with respect to the optical path (since they are all disposed on the plane of the radial array (40)). Regarding Claims 16 and 23, Shellhammer et al. teach said plurality of image sensor arrays comprising first and second image sensor arrays (see Fig. 9). Regarding Claims 17 and 24, Shellhammer et al. teach said first and second image sensor arrays oriented at a different rotational angle to the optical path, spaced by about 90 degrees to one another (left array (42) vs. top array (42)). Regarding Claims 18 and 25, Shellhammer et al. teach said plurality of image sensor arrays comprising first, second and third image sensor arrays (see Fig. 9). Regarding Claims 19 and 26, Shellhammer et al. teach said first, second and third image sensor arrays are oriented at a different rotational angle to the optical path, evenly rotationally spaced about the

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optical path (set of three arrays (42) separated by 120°- see Col. 9, lines 31-41). Regarding Claim 31, Shellhammer et al. teach the step of detecting the image at differing rotational angles comprising arranging a plurality of image sensor arrays (42) about the optical path, wherein each of said image sensor arrays being oriented at a different rotational angle to the optical path in relation to one another (see Fig. 9). Shellhammer et al. do not teach a lens system for focusing along the optical path an image of the object being read and the image sensor arrays detecting the light through the lens system, the lens system as a single lens element, or an aperture disposed in the optical path. Bremer teaches (see Fig. 1) a similar device and method, with a lens system (12) for focusing along an optical path (along (50)) an image (50) of an object (24) (see Col. 2, lines 59-62), the lens system comprising a single lens element (see Fig. 1), and an aperture (14) disposed in the optical path, wherein a plurality of image sensor arrays (18) (see Col. 3, lines 20-24) detects light from the object through the lens system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a lens system as a single lens element for focusing along the optical path an image of the object being read and the image sensor arrays detecting the light through the lens system, and an aperture disposed in the optical path, as taught by Bremer, in the device and method of Shellhammer et al., to focus and confine the image of the object being read onto the image sensor arrays for enhanced clarity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Yam whose telephone number is (571)272-2449. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

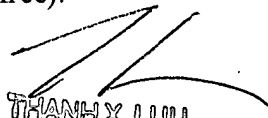
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571)272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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THANH X. LUU
PATENT EXAMINER